

# **THE 2006-2007 MISSOURI MUNICIPAL SOLID WASTE COMPOSITION STUDY**

**October, 2007**

**Conducted by:**  
**Midwest Assistance Program, Inc.**  
**The Midwestern Rural Community Assistance Partner**



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NATURAL RESOURCES  
SOLID WASTE MANAGEMENT PROGRAM**



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## **References**

## **EXECUTIVE SUMMARY**

### **Overview**

In 1996-1997, the Missouri Department of Natural Resources Solid Waste Management Program funded a Waste Composition Study to characterize and analyze samples of the municipal solid waste stream at Missouri landfills and transfer stations. The 2006-2007 Missouri Waste Composition Study (WCS) has been funded by the Department to sample and assess the characterization a decade later. Analysis of the 2006-2007 sort data by location and/or region as well as comparisons to the 1996-1997 results are included in this report.

Municipal solid waste (MSW) was the targeted waste stream. MSW represents the residential and light commercial loads which are the typical focus of recycling and waste reduction programs. In 1996 and 1997, MDNR reported waste reduction rates of 33 and 30 percent, respectively. Since 2001, the department has reported Missouri continues to meet the 40 percent waste diversion goal established by Senate Bill 530, which was signed into law in 1990. The estimated diversion rate for 2006 was 44% (MDNR SWMP).

The 2006-2007 study was conducted and summarized by the Midwest Assistance Program(MAP). MAP is a non-profit organization which provides environmental technical assistance throughout the Midwest.

Of the fifteen locations sampled for the 2006-2007 WCS, fourteen were locations considered in the 1996-1997 study. Results from both periods of time have been compared with significant changes noted as well as a general discussion of significant changes to area services over the decade. The fifteenth location, Courtney Ridge, is compared to the nearest location sampled in the 1996-1997 study, Lee's Summit.

The waste samples were sorted into categories during the 2006-2007 WCS including the twenty-six categories in the 1996-1997 study, plus two additional categories for electronic waste and household hazardous waste items.

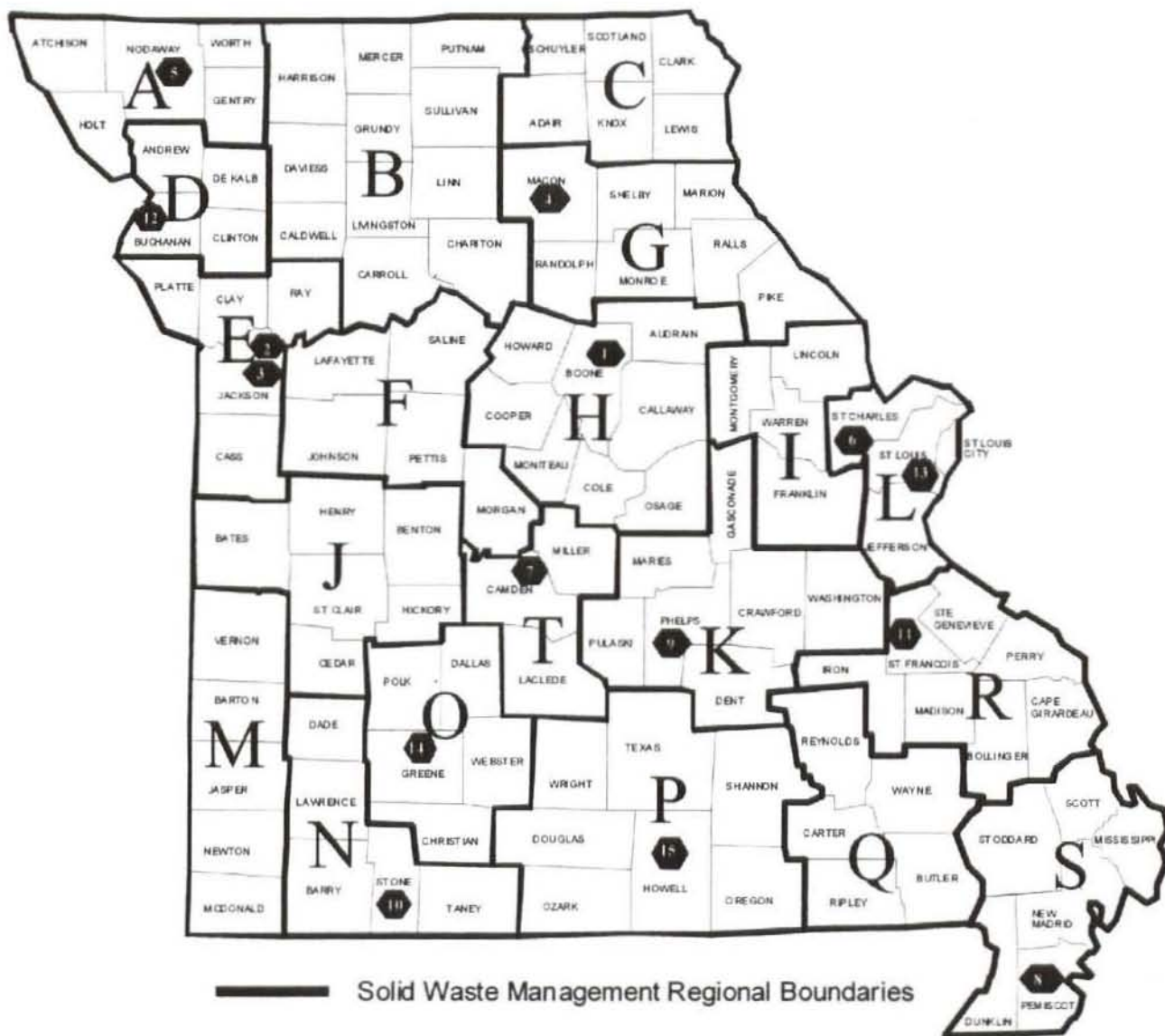
The purpose of the study was to identify components and percentages of waste in the municipal solid waste stream entering Missouri landfills. This provides knowledge for designing and implementing programs to reduce, reuse, and/or recycle targeted materials within the waste stream. Comparing the 2006-2007 study to previous studies assists in evaluation of such programs implemented during the intervening time. Waste generation rates and recycling program development for Missouri are discussed herein, as are the changes observed in Missouri's MSW.

The 2006-2007 Municipal Solid Waste Composition Study found among other things that:

- There is a lower percentage of Paper in the Missouri MSW waste stream than during the 1996-1997 WCS
- There is a higher percentage of Plastic in Missouri's MSW waste stream than during the 1996-1997 study, and
- A large portion of the Missouri MSW waste stream has value and should be targeted for diversion.



# 2006-2007 Missouri Municipal Solid Waste Composition Sites Sampled by County and Solid Waste Management Regions



(LF=Landfill TS=Transfer Station)

- |                          |                       |                            |
|--------------------------|-----------------------|----------------------------|
| 1. Columbia LF           | 6. O'Fallon TS        | 11. St. Francois County TS |
| 2. Courtney Ridge LF     | 7. Osage Beach TS     | 12. St. Joseph LF          |
| 3. Lee's Summit LF       | 8. Pemiscot County TS | 13. St. Louis (south) TS   |
| 4. Maple Hill (Macon) LF | 9. Phelps County TS   | 14. Springfield LF         |
| 5. Maryville TS          | 10. Reeds Spring TS   | 15. West Plains TS         |



### Methodology

MAP advertised, interviewed, and contracted with Keith and Janice Powell of Rolla to conduct the thirty sorts. This provided a reliable labor force and a consistent approach. MAP staff Dennis Siders and Cynthia Mitchell provided waste sort training and supervision throughout the project.

Two sorts were conducted at each of fifteen locations, one in the fall of 2006 and one in the spring of 2007. The sorting dates were as follows:

<u>Location</u>	<u>Fall 2006 Sorting Dates</u>	<u>Spring 2007 Sorting Dates</u>
Columbia	10/8-10/9/06	6/14-6/15/07
Courtney Ridge	10/24-10/25/06	6/7-6/8/07
Lee's Summit	10/23-10/24/06	6/5-6/6/07
Macon	10/11-10/12/06	6/12-6/13/07
Maryville	10/27-10/28/06	5/31-6/1/07
O'Fallon	10/5-10/6/06	5/21-5/22/07
Osage Beach	11/8-11/9/06	4/23-4/24/07
Pemiscot County	10/18-10/19/06	4/12-4/13/07
Phelps County	10/31-11/1/06	4/5-4/6/07
Reeds Spring	11/6-11/7/06	4/9-4/10/07
Springfield	11/2-11/3/06	4/18-4/19/07
St. Francois County	9/28-9/29/06	4/16-4/17/07
St. Joseph	10/25-10/26/06	5/29-5/30/07
St. Louis South	10/2-10/3/06	5/24-5/25/07
West Plains	10/16-10/17/06	4/3-4/4/07

Sorting locations on site were determined with local management and the sorting table, bins, and tools were set up accordingly. A tent was utilized at some locations. On-site buildings were used wherever available. Twenty-gallon labeled plastic containers were set up around the perimeter of the sorting table to receive sorted materials. A top-loaded scale was set up and tared to compensate for the empty bin weight.

Municipal solid waste (MSW) was the targeted sample material. Therefore, only loads with residential waste from single or multi-family dwellings and light commercial waste were



selected. Incoming municipal solid waste loads, primarily large packer trucks, were identified and selected at random and the driver was interviewed to determine the area the waste was hauled from as well as the estimated percentage of residential and commercial materials. Eight loads were sampled from each site in the fall and again in the spring, with the exception of the fall sort at the St. Francois County Transfer Station. Only six representative MSW loads arrived at the St. Francois County Transfer Station during the two-day fall sort.



Once the load was determined appropriate for sampling, 25 bags were selected at random from the load. Bags were opened and materials sorted into bins representing 28 categories. The descriptions for the categories utilized are as follows:

#### PAPER

Cardboard and Kraft Paper – corrugated cardboard, chipboard/boxboard, kraft paper

Newsprint – newspapers and ground wood paper stock

Magazines – periodicals and bound printed material from glossy and plain paper stocks

High Grade Paper – marketable quality office paper, plain stock junk mail, envelopes

Mixed Paper – all other paper materials that do not fit into above category, such as paper towels, tissues/bathroom waste, fast food wrappers

#### GLASS

Clear Glass Containers – clear glass which originally contained food or beverage

Brown Glass Containers – brown glass which originally contained food or beverages

Green or Blue Glass Containers – green or blue cast glass which originally contained food or beverage

Other Glass – Glass that was not originally a food or beverage container, such as pottery, light bulbs, window panes, etc.

#### METALS

Aluminum Cans – aluminum beverage containers

Other Aluminum – aluminum other than beverage containers, such as foil, foil pans, etc.

Ferrous Food Cans – Steel food containers, including pet food cans and aerosol cans



Other Ferrous – Ferrous and alloyed ferrous scrap to which a magnet attracts

Other Non-Ferrous – all nonmagnetic metals that are not recognizable as aluminum

Oil Filters – used and new automotive oil filters

#### PLASTICS

Pet (#1) – beverage bottles and other containers clearly identified as #1 plastic, composed of polyethylene terephthalate

HDPE(#2) – containers clearly marked as #2 plastic, composed of high density polyethylene

Plastic Film – all flexible plastic film regardless of resin content, such as plastic shopping bags, trash bags, and product wrapping

Other Plastic – PVC(#3), LDPE(#4), PP(#5), PS(#6), other plastics or mixed resins (#7), and unidentifiable plastics, such as toys, straws, miscellaneous household and personal products made of plastic but not identifiable as PET(#1) or HDPE(#2)

#### ORGANICS

Food Waste – putrescent material capable of being decomposed by microorganisms with sufficient rapidity to cause nuisances from odors and gases

Wood Waste – items composed of wood, such as furniture, tools, boards, plywood, frames, etc.

Textiles – woven fabric, natural or synthetic, either in bulk or made into usable items, such as clothing, shoes, handbags, etc.

Disposable Diapers – adult or infant disposable diapers, clean or soiled

Other Organics – items that do not fall into any other category which are composed of carbon-based material, such as human and animal feces, plant trimmings, etc.

#### INORGANICS

Fines – all matter not sorted into specific categories which are too small or mixed to be categorized

Other Inorganics – items which do not fall into any other category and are composed of inert materials, such as kitty litter

#### ELECTRONIC WASTE

Any item that has been operated electrically, or a component of the item, such as computers, monitors, keyboards, computer mouse, remote controls, small appliances, telephones/answering machines, electronic games or controllers

#### HOUSEHOLD HAZARDOUS WASTE

Items that are potentially hazardous to waste handlers or ecosystems, such as over-the-counter(OTC) and prescription(Rx) medications, beauty/hygiene products, beauty/hygiene aerosols, household cleaning products and aerosols, sharps/blades, syringes and needles, hardware and gardening/yard products, disposable razors, batteries, and other miscellaneous hazardous or toxic items

As each sample was sorted, bins of sorted material were weighed and recorded. The volume of material was estimated and recorded as 5, 10, 15, or 20 gallons of material. Following each location's sort, the data was input into the computer, volume converted from gallons to cubic yards, and all quantities were summarized. Batteries were retained for delivery and evaluation by the Rechargeable Battery Recycling Corporation.

### Results

#### ***Disposal Rates of Municipal Solid Waste***



The Missouri Department of Natural Resources receives data on the tonnage disposed in Missouri landfills, but does not know the end destination of all waste received at transfer stations. Transfer stations deposit their materials into landfills in Missouri as well as surrounding states. Therefore, quantifying the overall waste stream is difficult. Automatically summing all waste from landfills and transfer stations would double count the tons from transfer stations that are disposed in Missouri landfills.

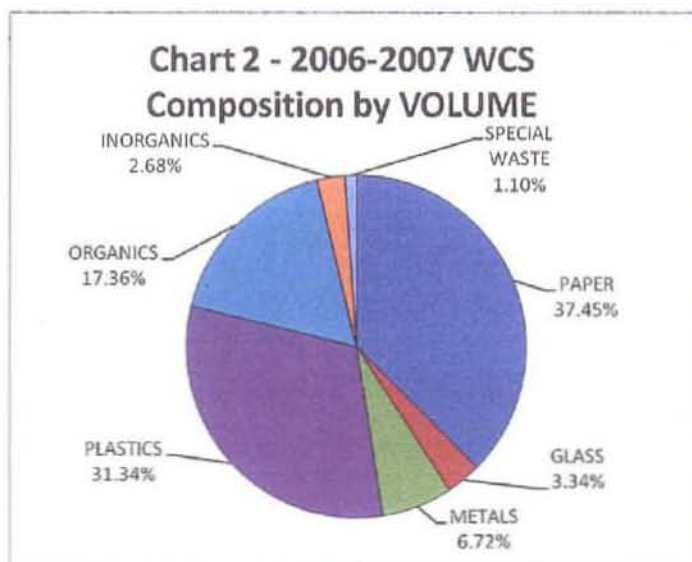
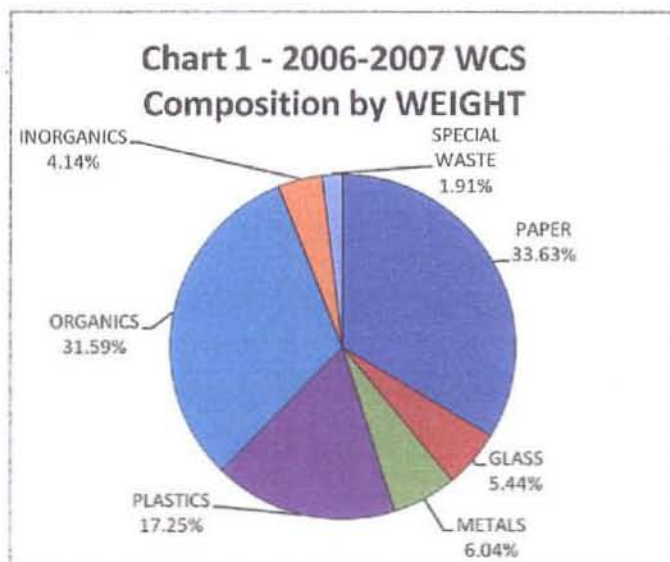
No data is reported to DNR regarding the composition of the tonnage disposed. Therefore components of the total waste stream must be estimated in order to obtain the quantity of MSW. This was accomplished during the 1996-1997 WCS. That determination is listed below as well as additional data considered in estimating the components of the Missouri waste stream and analysis contained in this report:

- Tons of waste disposed of in Missouri landfills during 2006 = 4,500,160 (MDNR)
- The 2006 Missouri population = 5,842,713 (MDNR estimate)
- Annual Per Capita Waste Generation = 2.14 tons
- Missouri MSW percentage of waste stream is 59.6% (1996-1997 WCS)

From this information, the quantity of MSW in the Missouri waste stream for disposal in 2006 was determined to be 2,682,095 tons. Per Capita MSW generation was 1.28 tons annually, or 7 pounds per day. Annual waste disposal in Missouri landfills per capita was 1,540 pounds in 2006.

### **Sort Findings**

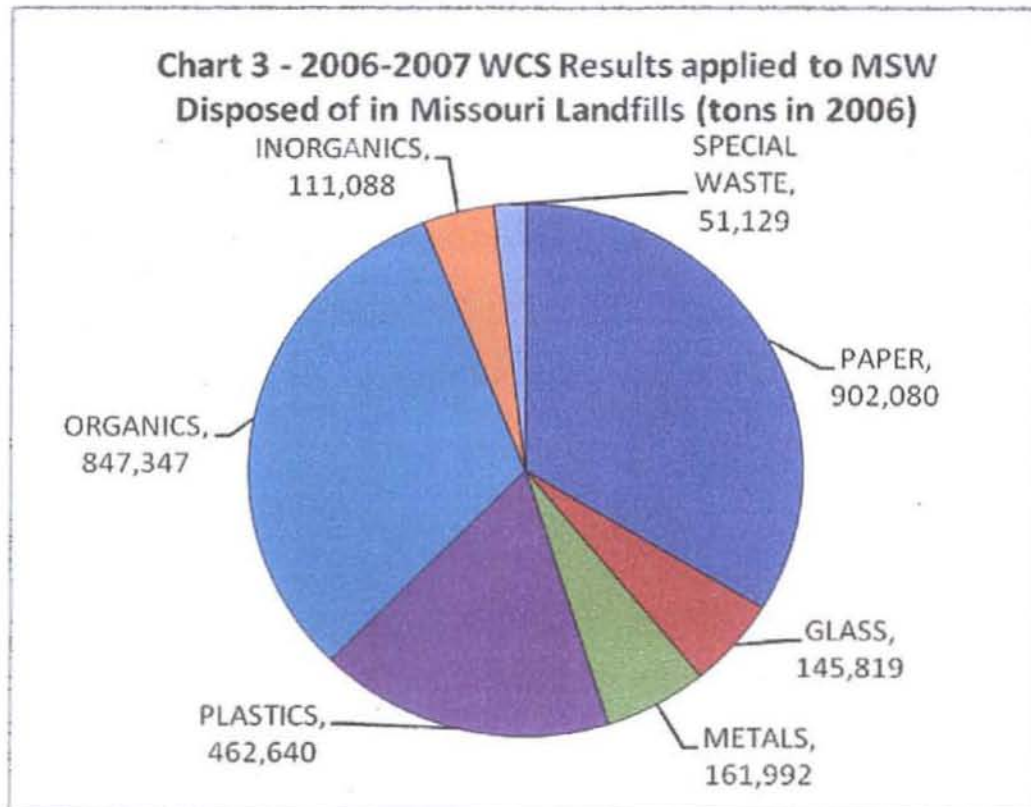
The 2006-2007 WCS sort results as a percent by weight and percent by volume of the major sort categories are exhibited in Chart 1 and Chart 2 and detailed in Table 1.



**Table 1 – 2006-2007 Waste Composition Study Results**

	Wt.(lbs.)	%by Wt.	Vol.(cy)	%by Vol.
Cardboard	4,884	8.20%	68.778	13.59%
Newsprint	3,076	5.17%	17.635	3.48%
Magazines	2,181	3.66%	9.025	1.78%
High Grade Paper	3,809	6.40%	32.95	6.51%
Mixed Paper	6,075	10.20%	61.225	12.09%
<b>TOTAL PAPER</b>	<b>20,025</b>	<b>33.63%</b>	<b>189.613</b>	<b>37.45%</b>
Clear Glass	1,616	2.71%	6.55	1.29%
Brown Glass	1,054	1.77%	5.585	1.10%
Green Glass	374	0.63%	3.075	0.61%
Other Glass	193	0.32%	1.685	0.33%
<b>TOTAL GLASS</b>	<b>3,237</b>	<b>5.44%</b>	<b>16.895</b>	<b>3.34%</b>
Aluminum Cans	946	1.59%	13.075	2.58%
Other Aluminum	200	0.34%	2.875	0.57%
Non Ferrous	137	0.23%	1.425	0.28%
Food Cans	1,747	2.93%	12.425	2.45%
Ferrous	518	0.87%	3.71	0.73%
Oil filters	48	0.08%	0.526	0.10%
<b>TOTAL METALS</b>	<b>3,596</b>	<b>6.04%</b>	<b>34.036</b>	<b>6.72%</b>
PET #1	1,516	2.55%	23.45	4.63%
HDPE #2	1,129	1.90%	20.55	4.06%
Plastic Film	2,869	4.82%	51.8	10.23%
Other Plastic	4,756	7.99%	62.875	12.42%
<b>TOTAL PLASTIC</b>	<b>10,270</b>	<b>17.25%</b>	<b>158.675</b>	<b>31.34%</b>
Food Waste	10,254	17.22%	41.825	8.26%
Wood Waste	709	1.19%	3.425	0.68%
Textiles	2,817	4.73%	16.6	3.28%
Diapers	3,264	5.48%	15.3	3.02%
Other Organics	1,766	2.97%	10.725	2.12%
<b>TOTAL ORGANICS</b>	<b>18,810</b>	<b>31.59%</b>	<b>87.875</b>	<b>17.36%</b>
Fines	554	0.93%	4.45	0.88%
Other Inorganics	1,912	3.21%	9.125	1.80%
<b>TOTAL INORGANICS</b>	<b>2,466</b>	<b>4.14%</b>	<b>13.575</b>	<b>2.68%</b>
HHW	547	0.92%	3.05	0.60%
Electronic Waste	588	0.99%	2.525	0.50%
<b>TOTAL SPECIAL WASTE</b>	<b>1,135</b>	<b>1.91%</b>	<b>5.575</b>	<b>1.10%</b>
<b>TOTAL COMPOSITION</b>	<b>59,539</b>	<b>100%</b>	<b>506.244</b>	<b>100%</b>

Applying these findings to the estimated MSW waste stream disposed of in Missouri landfills in 2006, Chart 3 exhibits the estimated quantities of each category going into the landfills.



Summarized weights and volumes of the samples at each location are presented in Table 2. Overall, just less than 30 tons were sampled during 30 sorting events, an average of almost one ton per sorting event at each location in the fall and again in the spring. Just over 15,000 tons of wastes were accepted at the facilities during the time frame the samples were conducted. The Maryville Transfer Station receives the least amount on average at 50 tons per day while the Courtney Ridge Landfill averaged over 1000 tons per day in 2006. The sorted volume totaled just over 500 cubic yards, an average of approximately 16.5 c.y. per site per sampling event in the fall and spring. Table 3 provides the results by location identified in their respective solid waste management districts. The locations with the highest and lowest results as a percentage by weight and percentage by volume for each sort category and subcategory are displayed in Table 4.



**Table 2 – 2006-2007 WCS Summary of Weights and Volumes Sampled by Location**

	Fall Sort Wt.(lbs.)	Fall Sort Vol.(c.y.)	Spring Sort Wt.(lbs.)	Spring Sort Vol.(c.y.)	Total Wt.(lbs.)	Total Vol.(c.y.)
Columbia	1,737	15.6	2,288	18.0	4,025	33.6
Courtney Ridge	1,908	18.4	2,167	17.9	4,075	36.3
Lee's Summit	1,736	14.3	2,374	19.3	4,110	33.6
Macon	2,199	20.2	2,023	15.2	4,222	35.4
Maryville	1,914	17.8	2,136	17.3	4,050	35.1
O'Fallon	1,493	12.3	1,933	14.6	3,426	26.9
Osage Beach	1,894	16.6	2,106	18.3	4,000	34.9
Pemiscot County	2,164	19.4	2,161	20.8	4,325	40.2
Phelps County	1,855	15.3	2,281	18.2	4,136	33.5
Reeds Spring	2,073	18.3	2,186	19.4	4,259	37.7
Springfield	2,006	16.2	2,030	18.5	4,036	34.7
St. Francois County	1,402	11.3	2,449	20.9	3,851	32.1
St. Joseph	1,878	16.2	1,857	15.9	3,735	32.0
St. Louis	1,498	13.2	1,781	13.8	3,279	27.0
West Plains	2,087	16.7	1,923	16.6	4,010	33.3
TOTAL	27,844	241.6	31,695	264.6	59,539	506.2
Avg. per Site	1,856	16.1	2,113	17.6	3,969	33.7

**Table 3 - 2006-2007 Waste Composition and Comparison  
Results in Respective Solid Waste Management Districts**

	Dist.A-Maryville		Dist.D-St. Joseph		Dist.E-Lee's Summit		Dist.E-Courtney Ridge		Dist.G-Macon		Dist.H-Columbia		Dist.K-Phelps Co.	
	% by Wt.	% by Vol.	% by Wt.	% by Vol.	% by Wt.	% by Vol.	% by Wt.	% by Vol.	% by Wt.	% by Vol.	% by Wt.	% by Vol.	% by Wt.	% by Vol.
Cardboard	8.67%	14.47%	7.84%	13.90%	8.00%	13.48%	8.88%	14.59%	8.67%	12.70%	8.67%	15.34%	7.37%	12.47%
Newsprint	4.49%	2.92%	6.61%	4.14%	6.20%	4.10%	5.60%	3.17%	5.40%	3.25%	3.95%	2.76%	3.46%	2.91%
Magazines	2.77%	1.21%	3.91%	2.42%	4.23%	2.46%	3.07%	1.45%	3.15%	1.62%	2.96%	1.49%	3.87%	1.94%
High Grade Paper	6.59%	7.13%	5.41%	5.23%	5.96%	5.73%	8.00%	8.40%	5.95%	5.36%	4.75%	4.17%	9.21%	8.14%
Mixed Paper	8.64%	11.40%	11.38%	12.88%	9.29%	11.99%	8.64%	10.60%	10.35%	11.43%	11.06%	12.66%	9.84%	11.20%
<b>TOTAL PAPER</b>	<b>31.16%</b>	<b>37.13%</b>	<b>35.16%</b>	<b>38.66%</b>	<b>33.70%</b>	<b>37.75%</b>	<b>34.16%</b>	<b>38.20%</b>	<b>33.61%</b>	<b>34.37%</b>	<b>31.38%</b>	<b>36.41%</b>	<b>33.75%</b>	<b>36.67%</b>
Clear Glass	2.47%	1.07%	2.22%	1.25%	2.38%	1.41%	2.94%	1.24%	2.34%	1.76%	2.86%	1.04%	2.64%	1.34%
Brown Glass	1.48%	0.93%	2.03%	1.33%	1.31%	0.89%	2.13%	1.17%	1.30%	1.48%	0.89%	0.67%	1.98%	1.34%
Green Glass	0.49%	0.43%	0.70%	0.78%	0.41%	0.37%	0.91%	0.89%	0.52%	1.06%	0.47%	0.45%	0.44%	0.45%
Other Glass	0.32%	0.21%	0.08%	0.16%	0.24%	0.22%	0.15%	0.14%	0.71%	1.13%	0.25%	0.22%	0.12%	0.15%
<b>TOTAL GLASS</b>	<b>4.77%</b>	<b>2.64%</b>	<b>5.03%</b>	<b>3.61%</b>	<b>4.36%</b>	<b>2.90%</b>	<b>6.13%</b>	<b>3.44%</b>	<b>4.88%</b>	<b>5.43%</b>	<b>4.47%</b>	<b>2.38%</b>	<b>5.15%</b>	<b>3.29%</b>
Aluminum Cans	1.98%	2.92%	1.69%	2.58%	1.44%	2.48%	1.79%	2.68%	1.30%	2.89%	1.37%	2.31%	1.50%	2.46%
Other Aluminum	1.95%	0.21%	0.40%	0.55%	0.19%	0.22%	0.44%	0.55%	0.26%	1.06%	0.25%	0.37%	0.31%	0.60%
Non Ferrous	0.47%	0.43%	0.13%	0.08%	0.12%	0.15%	0.10%	0.14%	0.12%	0.85%	0.02%	0.07%	0.34%	0.37%
Food Cans	2.99%	2.64%	2.52%	2.19%	2.41%	2.08%	3.48%	2.62%	3.15%	3.11%	1.78%	1.49%	3.02%	2.46%
Ferrous	1.11%	0.86%	1.39%	1.01%	0.56%	0.45%	1.01%	0.69%	0.78%	1.13%	1.19%	0.74%	0.87%	0.82%
Oil filters	0.05%	0.07%	0.03%	0.08%	0.00%	0.00%	0.20%	0.28%	0.05%	0.07%	0.05%	0.07%	0.10%	0.22%
<b>TOTAL METALS</b>	<b>6.78%</b>	<b>7.13%</b>	<b>6.16%</b>	<b>6.48%</b>	<b>4.72%</b>	<b>6.36%</b>	<b>7.02%</b>	<b>6.96%</b>	<b>6.66%</b>	<b>9.10%</b>	<b>4.66%</b>	<b>5.06%</b>	<b>6.14%</b>	<b>6.96%</b>
PET #1	2.86%	5.13%	2.65%	4.45%	2.34%	4.32%	2.72%	5.02%	2.63%	4.52%	1.96%	3.80%	1.61%	3.29%
HDPE #2	1.95%	4.48%	1.93%	3.59%	2.12%	4.54%	2.01%	3.79%	1.87%	3.81%	1.39%	3.28%	1.84%	3.96%
Plastic Film	4.44%	9.48%	4.87%	10.15%	3.56%	8.84%	5.13%	11.36%	3.62%	8.61%	6.78%	14.37%	5.15%	10.31%
Other Plastic	7.65%	12.54%	8.25%	12.41%	8.27%	13.48%	6.97%	11.29%	8.05%	11.64%	8.50%	13.18%	7.16%	10.98%
<b>TOTAL PLASTIC</b>	<b>16.91%</b>	<b>31.65%</b>	<b>17.70%</b>	<b>30.60%</b>	<b>16.28%</b>	<b>30.98%</b>	<b>16.83%</b>	<b>31.46%</b>	<b>16.18%</b>	<b>28.68%</b>	<b>18.63%</b>	<b>34.62%</b>	<b>16.96%</b>	<b>28.53%</b>
Food Waste	18.52%	8.48%	16.97%	8.67%	18.15%	9.01%	13.15%	6.61%	15.89%	6.99%	19.06%	8.12%	17.53%	8.89%
Wood Waste	1.14%	0.71%	1.23%	0.62%	1.56%	0.74%	0.74%	0.48%	1.35%	0.85%	1.02%	0.60%	2.03%	1.12%
Textiles	6.64%	3.78%	4.39%	2.89%	6.11%	4.47%	4.42%	2.89%	6.13%	4.59%	5.07%	3.95%	4.26%	3.14%
Diapers	4.44%	2.57%	4.95%	3.12%	5.47%	3.13%	7.31%	3.72%	5.16%	3.03%	4.67%	2.46%	4.76%	3.73%
Other Organics	3.26%	1.78%	2.86%	1.72%	3.43%	2.31%	4.69%	2.89%	3.34%	2.68%	3.28%	2.46%	4.28%	3.73%
<b>TOTAL ORGANICS</b>	<b>34.00%</b>	<b>17.32%</b>	<b>30.41%</b>	<b>17.02%</b>	<b>34.72%</b>	<b>19.66%</b>	<b>30.31%</b>	<b>16.69%</b>	<b>31.66%</b>	<b>18.14%</b>	<b>33.09%</b>	<b>17.67%</b>	<b>32.86%</b>	<b>19.94%</b>
Fines	0.67%	0.50%	0.98%	0.78%	0.66%	0.60%	0.68%	0.62%	1.11%	0.92%	0.89%	0.67%	0.94%	1.12%
Other Inorganics	2.84%	1.85%	3.19%	2.11%	3.87%	1.94%	2.82%	1.45%	5.16%	2.75%	4.30%	2.31%	3.05%	2.39%
<b>TOTAL INORGANICS</b>	<b>3.51%</b>	<b>2.35%</b>	<b>4.18%</b>	<b>2.89%</b>	<b>4.53%</b>	<b>2.53%</b>	<b>3.48%</b>	<b>2.06%</b>	<b>6.28%</b>	<b>3.67%</b>	<b>5.19%</b>	<b>2.98%</b>	<b>3.99%</b>	<b>3.51%</b>
HHW	1.09%	0.86%	0.86%	0.62%	0.44%	0.30%	1.25%	0.83%	0.50%	0.21%	0.55%	0.30%	1.36%	0.67%
Electronic Waste	1.78%	0.93%	0.54%	0.31%	1.27%	0.46%	0.81%	0.48%	1.11%	0.49%	2.04%	0.67%	0.80%	0.45%
<b>TOTAL SPECIAL WASTE</b>	<b>2.86%</b>	<b>1.78%</b>	<b>1.39%</b>	<b>0.94%</b>	<b>1.70%</b>	<b>0.74%</b>	<b>2.06%</b>	<b>1.31%</b>	<b>1.61%</b>	<b>0.71%</b>	<b>2.58%</b>	<b>0.97%</b>	<b>2.18%</b>	<b>1.12%</b>
<b>TOTAL COMPOSITION</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>



**Table 3(cont.) - 2006-2007 Waste Composition and Comparison  
Results in Respective Solid Waste Management Districts**

	Dist.L-O'Fallon		Dist.L-St. Louis		Dist.N-Reeds Spring		Dist.O-Springfield		Dist.P-West Plains		Dist.R-St. Francois Co.		Dist.S-Pemiscot Co.		Dist.T-Osage Beach	
	% by Wt.	% by Vol.	% by Wt.	% by Vol.	% by Wt.	% by Vol.	% by Wt.	% by Vol.	% by Wt.	% by Vol.	% by Wt.	% by Vol.	% by Wt.	% by Vol.	% by Wt.	% by Vol.
Cardboard	6.77%	13.21%	7.78%	12.78%	8.43%	14.21%	7.56%	13.27%	8.28%	12.10%	7.71%	13.47%	8.41%	13.74%	8.58%	13.69%
Newsprint	5.90%	4.19%	6.47%	4.83%	5.82%	4.05%	7.04%	4.11%	3.94%	2.93%	5.38%	3.89%	3.33%	2.86%	4.48%	2.90%
Magazines	4.14%	1.67%	4.51%	2.22%	3.76%	1.93%	4.51%	1.51%	3.82%	2.10%	3.19%	1.32%	3.19%	1.74%	4.15%	1.79%
High Grade Paper	6.51%	6.51%	6.34%	6.30%	7.44%	8.03%	8.79%	7.84%	8.58%	8.09%	5.58%	5.68%	4.79%	6.09%	5.95%	6.74%
Mixed Paper	10.39%	12.65%	11.19%	12.59%	8.73%	12.42%	9.64%	13.48%	12.62%	12.70%	11.56%	12.61%	10.50%	11.56%	9.70%	11.75%
<b>TOTAL PAPER</b>	<b>33.71%</b>	<b>38.23%</b>	<b>36.29%</b>	<b>38.52%</b>	<b>34.19%</b>	<b>40.64%</b>	<b>36.53%</b>	<b>40.01%</b>	<b>35.24%</b>	<b>35.91%</b>	<b>33.42%</b>	<b>36.99%</b>	<b>31.21%</b>	<b>35.99%</b>	<b>32.85%</b>	<b>36.86%</b>
Clear Glass	2.07%	1.21%	2.04%	0.93%	3.94%	2.06%	3.02%	1.15%	3.57%	1.50%	2.47%	0.93%	2.61%	1.18%	2.83%	1.15%
Brown Glass	1.61%	1.12%	1.86%	1.02%	2.25%	1.13%	2.08%	1.23%	2.24%	1.20%	1.51%	0.97%	1.43%	0.87%	2.48%	1.22%
Green Glass	0.85%	0.84%	1.10%	0.74%	0.52%	0.46%	0.74%	0.72%	0.37%	0.30%	0.26%	0.23%	0.65%	0.56%	1.13%	0.86%
Other Glass	0.41%	0.58%	0.21%	0.28%	0.47%	0.33%	0.40%	0.29%	0.22%	0.15%	0.26%	0.26%	0.32%	0.31%	0.65%	0.57%
<b>TOTAL GLASS</b>	<b>4.93%</b>	<b>3.72%</b>	<b>5.22%</b>	<b>2.96%</b>	<b>7.18%</b>	<b>3.98%</b>	<b>6.24%</b>	<b>3.38%</b>	<b>6.41%</b>	<b>3.16%</b>	<b>4.49%</b>	<b>2.40%</b>	<b>5.02%</b>	<b>2.92%</b>	<b>7.08%</b>	<b>3.80%</b>
Aluminum Cans	1.34%	2.42%	1.31%	2.31%	1.78%	2.52%	1.59%	2.24%	1.62%	2.78%	1.22%	2.18%	1.80%	2.73%	2.00%	3.08%
Other Aluminum	0.35%	0.65%	0.21%	0.37%	0.35%	0.53%	0.50%	0.79%	0.22%	0.45%	0.34%	0.86%	0.35%	0.44%	0.65%	0.86%
Non Ferrous	0.12%	0.19%	0.12%	0.09%	0.16%	0.20%	0.45%	0.43%	0.15%	0.15%	0.16%	0.23%	0.12%	0.12%	0.85%	0.64%
Food Cans	2.22%	1.77%	2.50%	2.22%	3.22%	2.46%	3.82%	2.87%	2.87%	2.78%	3.53%	2.73%	3.38%	3.11%	2.90%	2.15%
Ferrous	0.55%	0.74%	0.85%	0.74%	0.40%	0.33%	1.07%	0.72%	1.00%	0.98%	0.39%	0.34%	0.92%	0.75%	0.95%	0.72%
Oil filters	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.52%	0.43%	0.02%	0.00%	0.00%	0.00%	0.05%	0.12%	0.13%	0.14%
<b>TOTAL METALS</b>	<b>4.58%</b>	<b>6.77%</b>	<b>5.00%</b>	<b>5.74%</b>	<b>6.92%</b>	<b>6.04%</b>	<b>7.93%</b>	<b>7.28%</b>	<b>5.89%</b>	<b>7.14%</b>	<b>5.63%</b>	<b>6.34%</b>	<b>6.61%</b>	<b>7.27%</b>	<b>7.48%</b>	<b>7.60%</b>
PET #1	2.48%	6.23%	2.23%	4.07%	2.68%	4.65%	2.65%	4.69%	2.77%	4.58%	2.82%	5.45%	2.91%	4.72%	2.80%	4.73%
HDPE #2	1.28%	2.70%	1.52%	3.24%	1.97%	3.92%	2.11%	4.83%	2.14%	4.58%	2.03%	4.59%	2.06%	4.54%	2.05%	4.51%
Plastic Film	3.24%	7.81%	5.00%	10.93%	5.26%	9.89%	5.23%	9.95%	4.81%	9.92%	4.28%	9.81%	5.32%	10.94%	5.38%	11.11%
Other Plastic	7.30%	13.30%	6.92%	12.41%	8.34%	11.42%	7.41%	11.90%	9.58%	14.42%	9.83%	14.17%	7.70%	11.87%	7.93%	11.68%
<b>TOTAL PLASTIC</b>	<b>14.30%</b>	<b>30.05%</b>	<b>15.68%</b>	<b>30.65%</b>	<b>18.24%</b>	<b>29.88%</b>	<b>17.39%</b>	<b>31.36%</b>	<b>19.30%</b>	<b>33.51%</b>	<b>18.67%</b>	<b>34.03%</b>	<b>17.98%</b>	<b>32.07%</b>	<b>18.16%</b>	<b>32.03%</b>
Food Waste	17.95%	8.09%	16.71%	7.59%	17.07%	9.63%	15.58%	7.26%	17.11%	8.56%	20.64%	9.34%	18.52%	9.51%	15.80%	8.95%
Wood Waste	1.05%	0.66%	1.43%	1.11%	1.10%	0.48%	1.24%	0.58%	1.25%	0.83%	0.93%	0.62%	0.97%	0.44%	0.83%	0.57%
Textiles	3.62%	2.79%	4.18%	3.52%	4.11%	2.52%	3.00%	1.73%	4.11%	2.70%	4.10%	3.27%	5.80%	3.60%	4.58%	3.30%
Diapers	6.04%	3.16%	5.46%	3.06%	5.54%	2.86%	6.02%	3.17%	5.51%	3.23%	5.14%	2.28%	7.31%	3.79%	4.33%	2.58%
Other Organics	7.38%	4.09%	3.57%	2.98%	1.71%	1.00%	1.14%	1.01%	2.14%	2.03%	1.40%	1.40%	0.97%	0.87%	1.85%	1.72%
<b>TOTAL ORGANICS</b>	<b>36.06%</b>	<b>18.70%</b>	<b>31.35%</b>	<b>18.24%</b>	<b>29.54%</b>	<b>16.47%</b>	<b>26.98%</b>	<b>13.77%</b>	<b>30.12%</b>	<b>17.36%</b>	<b>32.23%</b>	<b>16.90%</b>	<b>33.67%</b>	<b>18.21%</b>	<b>27.18%</b>	<b>16.12%</b>
Fines	1.17%	1.21%	1.01%	0.93%	0.66%	0.80%	0.87%	1.08%	0.87%	1.05%	1.64%	1.40%	0.79%	0.68%	1.18%	1.00%
Other Inorganics	4.14%	1.58%	4.48%	2.41%	2.49%	1.39%	2.53%	1.44%	1.12%	0.98%	2.31%	0.93%	3.51%	2.05%	2.60%	1.50%
<b>TOTAL INORGANICS</b>	<b>5.31%</b>	<b>2.79%</b>	<b>5.49%</b>	<b>3.33%</b>	<b>3.15%</b>	<b>2.19%</b>	<b>3.39%</b>	<b>2.52%</b>	<b>2.00%</b>	<b>2.03%</b>	<b>3.95%</b>	<b>2.34%</b>	<b>4.30%</b>	<b>2.73%</b>	<b>3.78%</b>	<b>2.61%</b>
HHW	0.82%	0.47%	0.52%	0.37%	1.13%	0.73%	1.68%	1.08%	0.47%	0.45%	0.99%	0.55%	0.86%	0.56%	1.20%	0.93%
Electronic Waste	0.29%	0.28%	0.46%	0.19%	0.66%	0.27%	0.84%	0.58%	0.57%	0.45%	0.73%	0.47%	0.44%	0.25%	2.30%	1.15%
<b>TOTAL SPECIAL WASTE</b>	<b>1.11%</b>	<b>0.74%</b>	<b>0.98%</b>	<b>0.56%</b>	<b>1.78%</b>	<b>1.00%</b>	<b>2.53%</b>	<b>1.66%</b>	<b>1.06%</b>	<b>0.90%</b>	<b>1.71%</b>	<b>1.01%</b>	<b>1.29%</b>	<b>0.81%</b>	<b>3.50%</b>	<b>2.08%</b>
<b>TOTAL COMPOSITION</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

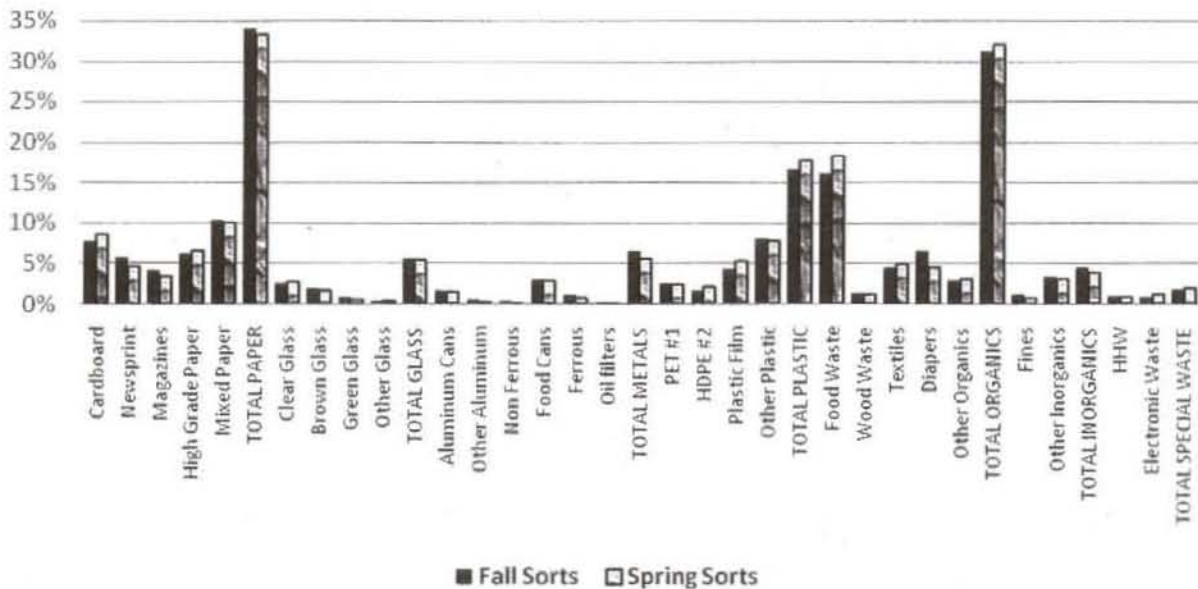


Table 4 - Lowest and Highest Results by Category and Subcategory

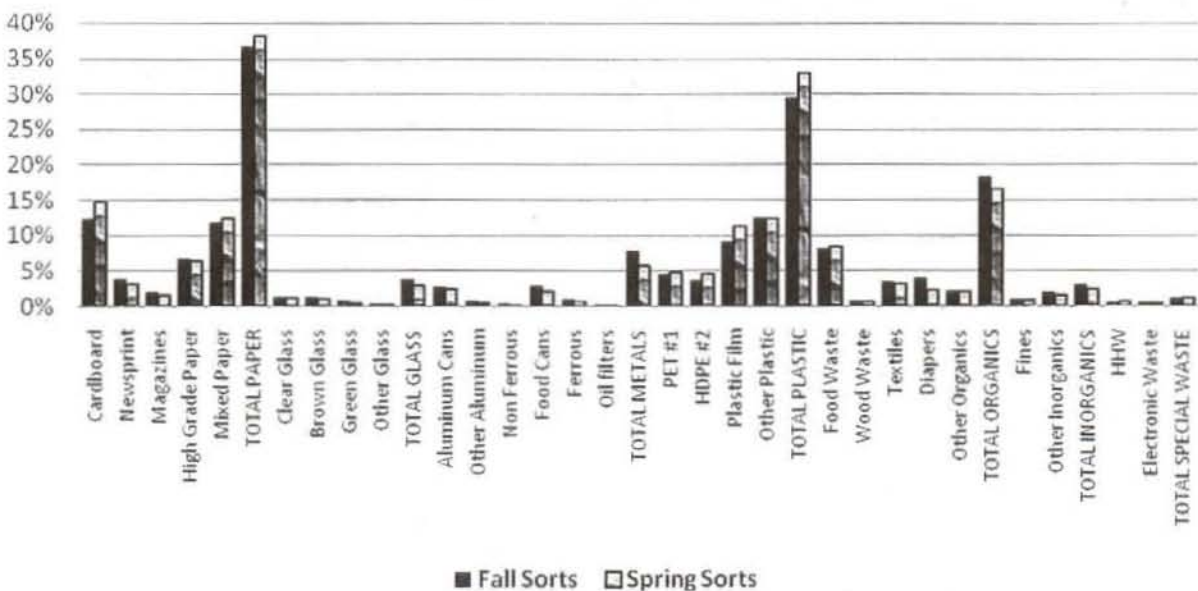
	Site(s) with LOWEST Result By Category		Site(s) with HIGHEST Result By Category	
	%by Wt.	%by Vol.	%by Wt.	%by Vol.
Cardboard	O'Fallon(6.77%)	West Plains(12.1%)	Pemiscot Co.(9.41%)	Columbia(15.34%)
Newsprint	Pemiscot Co.(3.33%)	Columbia(2.76%)	Springfield(7.04%)	St. Louis(4.63%)
Magazines	Maryville(2.77%)	Maryville(1.21%)	St. Louis & Springfield(4.51%)	Lee's Summit(2.46%)
High Grade Paper	Columbia(4.75%) & Pemiscot Co.(4.79%)	Columbia(4.17%)	Phelps Co.(9.21%)	Courtney Ridge(8.4%)
Mixed Paper	Maryville & Courtney Ridge(8.64%)	Courtney Ridge(10.6%)	West Plains(12.62%)	Springfield(13.48%)
<b>TOTAL PAPER</b>	Maryville(31.16%) & Pemiscot Co.(31.21%)	Macon(34.37%)	St. Louis(36.29%)	Reeds Spring(40.64%) & Springfield(40.01%)
Clear Glass	St. Louis(2.04%) & O'Fallon(2.07%)	St. Louis & St. Francois Co.(.93%)	Reeds Spring(3.94%)	Reeds Spring(2.06%)
Brown Glass	Columbia(.89%)	Columbia(.67%)	Osage Beach(2.48%)	Macon(1.48%)
Green Glass	St. Francois Co.(.26%)	St. Francois Co.(.23%)	St. Louis(1.1%) & Osage Beach(1.13%)	Macon(1.06%)
Other Glass	St. Joseph(.08%)	Courtney Ridge(.14%) & Phelps Co.(.15%) & West Plains(.15%) & St. Joseph(.16%)	Macon(.71%)	Macon(1.13%)
<b>TOTAL GLASS</b>	Lee's Summit(4.36%)	Columbia(2.38%) & St. Francois Co.(2.4%)	Reeds Spring(7.18%) & Osage Beach(7.08%)	Macon(5.43%)
Aluminum Cans	St. Francois Co.(1.22%)	St. Francois Co.(2.18%)	Osage Beach(2%)	Osage Beach(3.08%)
Other Aluminum	Lee's Summit(.19%), St. Louis(.21%), West Plains(.22%)	Maryville(.21%) & Lee's Summit(.22%)	Maryville(1.95%)	Macon(1.06%)
Non Ferrous	Columbia(.02%)	St. Joseph(.08%), Columbia(.07%), St. Louis(.09%)	Osage Beach(.85%)	Macon(.85%)
Food Cans	Columbia(1.76%)	Columbia(1.49%)	Springfield(3.82%)	Pemiscot Co.(3.11%) & Macon(3.11%)
Ferrous	Reeds Spring(.4%) & St. Francois Co.(.39%)	Reeds Spring(.33%) & St. Francois Co.(.34%)	St. Joseph(1.39%)	Macon(1.13%)
Oil filters	0 found at Lee's Summit, Reeds Spring, O'Fallon, St. Louis, and St. Francois Co.	0 found at Lee's Summit, Reeds Spring, O'Fallon, St. Louis, and St. Francois Co.	Courtney Ridge(.2%)	Springfield(.43%)
<b>TOTAL METALS</b>	O'Fallon(4.58%)	Columbia(5.06%)	Springfield(7.93%)	Macon(9.1%)
PET #1	Phelps Co.(1.81%)	Phelps Co.(3.29%)	Pemiscot Co.(2.91%)	O'Fallon(6.23%)
HDPE #2	O'Fallon(1.28%)	O'Fallon(2.7%)	West Plains(2.14%)	Springfield(4.83%)
Plastic Film	O'Fallon(3.24%)	O'Fallon(7.81%)	Columbia(6.78%)	Columbia(14.37%)
Other Plastic	St. Louis(6.92%) & Courtney Ridge(6.97%)	Phelps Co.(10.98%)	St. Francois Co.(9.63%)	West Plains(14.42%)
<b>TOTAL PLASTIC</b>	O'Fallon(14.3%)	Macon(28.58%) & Phelps Co.(28.53%)	West Plains(19.3%)	Columbia(34.62%)
Food Waste	Courtney Ridge(13.15%)	Courtney Ridge(6.61%)	St. Francois Co.(20.64%)	Reeds Spring(9.63%)
Wood Waste	Courtney Ridge(.74%)	Courtney Ridge(.48%), Reeds Spring(.46%), Pemiscot Co.(.44%)	Phelps Co.(2.03%)	Phelps Co.(1.12%) & St. Louis(1.11%)
Textiles	Springfield(3%)	Springfield(1.73%)	Maryville(6.64%)	Macon(4.59%)
Diapers	Osage Beach(4.33%)	St. Francois Co.(2.26%)	Courtney Ridge & Pemiscot Co.(7.31%)	Pemiscot Co.(3.79%)
Other Organics	Pemiscot Co.(.97%)	Pemiscot Co.(.87%)	O'Fallon(7.38%)	O'Fallon(4.09%)
<b>TOTAL ORGANICS</b>	Springfield(26.98%)	Springfield(13.77%)	O'Fallon(36.05%)	Lee's Summit(19.66%)
Fines	Reeds Spring(.66%), Maryville(.67%), Lee's Summit(.66%), Courtney Ridge(.66%)	Maryville(.5%)	St. Francois Co.(1.64%)	St. Francois Co.(1.4%)
Other Inorganics	West Plains(1.12%)	West Plains(.98%) & St. Francois Co.(.93%)	Macon(5.16%)	Macon(2.75%)
<b>TOTAL INORGANICS</b>	West Plains(2%)	West Plains(2.03%) & Courtney Ridge(2.06%)	Macon(6.28%)	Macon(3.67%)
HHW	West Plains(.47%) & Lee's Summit(.44%)	St. Francois Co.(.16%)	Springfield(1.68%)	Springfield(1.08%)
Electronic Waste	O'Fallon(.29%)	St. Louis(.19%)	Osage Beach(2.3%)	Osage Beach(1.15%)
<b>TOTAL SPECIAL WASTE</b>	St. Louis(.98%)	St. Louis(.56%)	Osage Beach(3.5%)	Osage Beach(2.08%)

*Seasonal* - Summarized data by season is listed in Table 5 and exhibited in Charts 4 and 5. There was very little variance by season as a percentage by weight with the largest difference being observed in Food Waste(1.8 more in spring). The largest variance as a percentage by volume between the seasons occurred in Cardboard(2.34 less in the spring) and Plastic film(2.32 more in the spring).

**Chart 4 - 2006-2007 Seasonal Comparison  
By Material as % of Weight**



**Chart 5 - 2006-2007 Seasonal Comparison  
By Material as % of Volume**





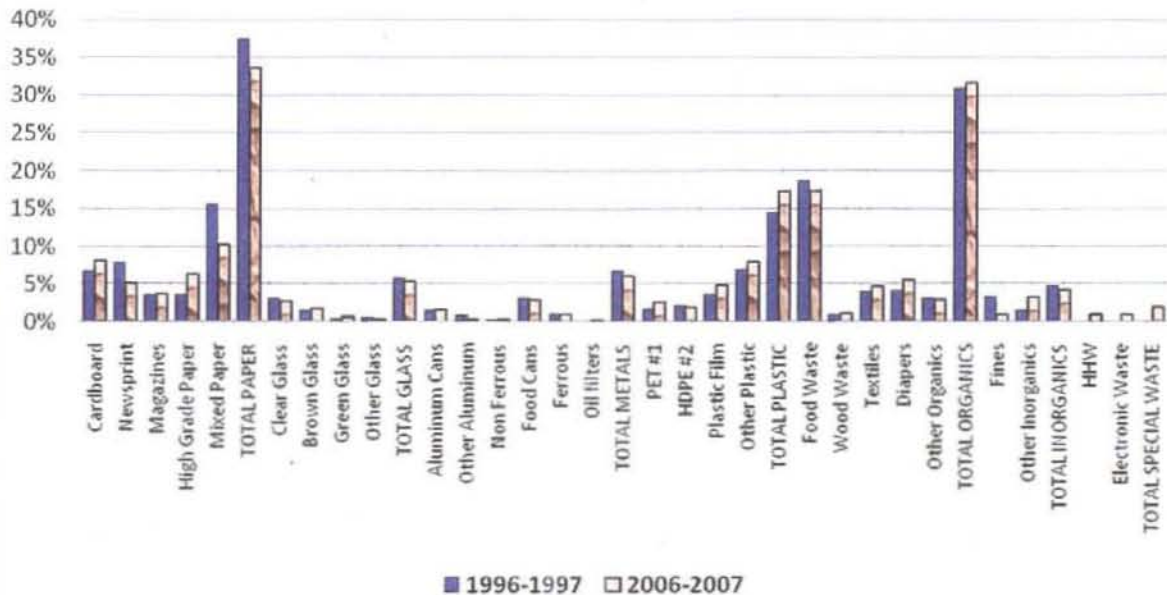
**Table 5 - 2006-2007 Waste Composition and Comparison by Season**

	TOTAL FALL SORTS				TOTAL SPRING SORTS				Difference Fall to Spring	
	Wt.(lbs.)	%by Wt.	Vol.(cy)	%by Vol.	Wt.(lbs.)	%by Wt.	Vol.(cy)	%by Vol.	%by Wt.	%by Vol.
Cardboard	2,141	7.69%	29.878	12.36%	2,743	8.65%	38.9	14.70%	0.97%	2.34%
Newsprint	1,584	5.69%	9.260	3.83%	1,492	4.71%	8.375	3.17%	-0.98%	-0.67%
Magazines	1,122	4.03%	4.950	2.05%	1,059	3.34%	4.075	1.54%	-0.69%	-0.51%
High Grade Paper	1,730	6.21%	16.100	6.66%	2,079	6.56%	16.85	6.37%	0.35%	-0.29%
Mixed Paper	2,882	10.35%	28.450	11.77%	3,193	10.07%	32.775	12.39%	-0.28%	0.62%
<b>TOTAL PAPER</b>	<b>9,459</b>	<b>33.97%</b>	<b>88.638</b>	<b>36.68%</b>	<b>10,566</b>	<b>33.34%</b>	<b>100.975</b>	<b>38.16%</b>	<b>0.63%</b>	<b>-1.49%</b>
Clear Glass	718	2.58%	3.250	1.34%	898	2.83%	3.3	1.25%	0.25%	-0.10%
Brown Glass	509	1.83%	3.010	1.25%	545	1.72%	2.575	0.97%	-0.11%	-0.27%
Green Glass	215	0.77%	1.900	0.79%	159	0.50%	1.175	0.44%	-0.27%	-0.34%
Other Glass	85	0.31%	0.960	0.40%	108	0.34%	0.725	0.27%	0.04%	-0.12%
<b>TOTAL GLASS</b>	<b>1,527</b>	<b>5.48%</b>	<b>9.12</b>	<b>3.77%</b>	<b>1,710</b>	<b>5.40%</b>	<b>7.775</b>	<b>2.94%</b>	<b>0.09%</b>	<b>0.84%</b>
Aluminum Cans	461	1.66%	6.650	2.75%	485	1.53%	6.425	2.43%	-0.13%	-0.32%
Other Aluminum	111	0.40%	1.725	0.71%	89	0.28%	1.15	0.43%	-0.12%	-0.28%
Non Ferrous	89	0.32%	1.050	0.43%	48	0.15%	0.375	0.14%	-0.17%	-0.29%
Food Cans	825	2.96%	6.900	2.86%	922	2.91%	5.525	2.09%	-0.05%	-0.77%
Ferrous	290	1.04%	2.260	0.94%	228	0.72%	1.45	0.55%	-0.32%	-0.39%
Oil filters	31	0.11%	0.251	0.10%	17	0.05%	0.275	0.10%	-0.06%	0.00%
<b>TOTAL METALS</b>	<b>1,807</b>	<b>6.49%</b>	<b>18.836</b>	<b>7.79%</b>	<b>1,789</b>	<b>5.64%</b>	<b>15.2</b>	<b>5.75%</b>	<b>0.85%</b>	<b>2.05%</b>
PET #1	717	2.58%	10.700	4.43%	799	2.52%	12.75	4.82%	-0.05%	0.39%
HDPE #2	455	1.63%	8.575	3.55%	674	2.13%	11.975	4.53%	0.49%	0.98%
Plastic Film	1,204	4.32%	21.800	9.02%	1,665	5.25%	30	11.34%	0.93%	2.32%
Other Plastic	2,262	8.12%	30.225	12.51%	2,494	7.87%	32.65	12.34%	-0.26%	-0.17%
<b>TOTAL PLASTIC</b>	<b>4,638</b>	<b>16.66%</b>	<b>71.3</b>	<b>29.50%</b>	<b>5,632</b>	<b>17.77%</b>	<b>87.375</b>	<b>33.02%</b>	<b>-1.11%</b>	<b>-3.52%</b>
Food Waste	4,480	16.09%	19.500	8.07%	5,774	18.22%	22.325	8.44%	2.13%	0.37%
Wood Waste	342	1.23%	1.725	0.71%	367	1.16%	1.7	0.64%	-0.07%	-0.07%
Textiles	1,236	4.44%	8.125	3.36%	1,581	4.99%	8.475	3.20%	0.55%	-0.16%
Diapers	1,817	6.53%	9.475	3.92%	1,447	4.57%	5.825	2.20%	-1.96%	-1.72%
Other Organics	801	2.88%	5.100	2.11%	965	3.04%	5.625	2.13%	0.17%	0.02%
<b>TOTAL ORGANICS</b>	<b>8,676</b>	<b>31.16%</b>	<b>43.925</b>	<b>18.18%</b>	<b>10,134</b>	<b>31.97%</b>	<b>43.95</b>	<b>16.61%</b>	<b>-0.81%</b>	<b>1.56%</b>
Fines	322	1.16%	2.300	0.95%	232	0.73%	2.15	0.81%	-0.42%	-0.14%
Other Inorganics	929	3.34%	4.950	2.05%	983	3.10%	4.175	1.58%	-0.24%	-0.47%
<b>TOTAL INORGANICS</b>	<b>1,251</b>	<b>4.49%</b>	<b>7.25</b>	<b>3.00%</b>	<b>1,215</b>	<b>3.83%</b>	<b>6.325</b>	<b>2.39%</b>	<b>0.66%</b>	<b>0.61%</b>
HHW	273	0.98%	1.500	0.62%	274	0.86%	1.55	0.59%	-0.12%	-0.03%
Electronic Waste	213	0.76%	1.100	0.46%	375	1.18%	1.425	0.54%	0.42%	0.08%
<b>TOTAL SPECIAL WASTE</b>	<b>486</b>	<b>1.75%</b>	<b>2.6</b>	<b>1.08%</b>	<b>649</b>	<b>2.05%</b>	<b>2.975</b>	<b>1.12%</b>	<b>-0.30%</b>	<b>-0.05%</b>
<b>TOTAL COMPOSITION</b>	<b>27,844</b>	<b>100%</b>	<b>241.669</b>	<b>100%</b>	<b>31,695</b>	<b>100%</b>	<b>264.575</b>	<b>100%</b>	<b>0%</b>	<b>0%</b>

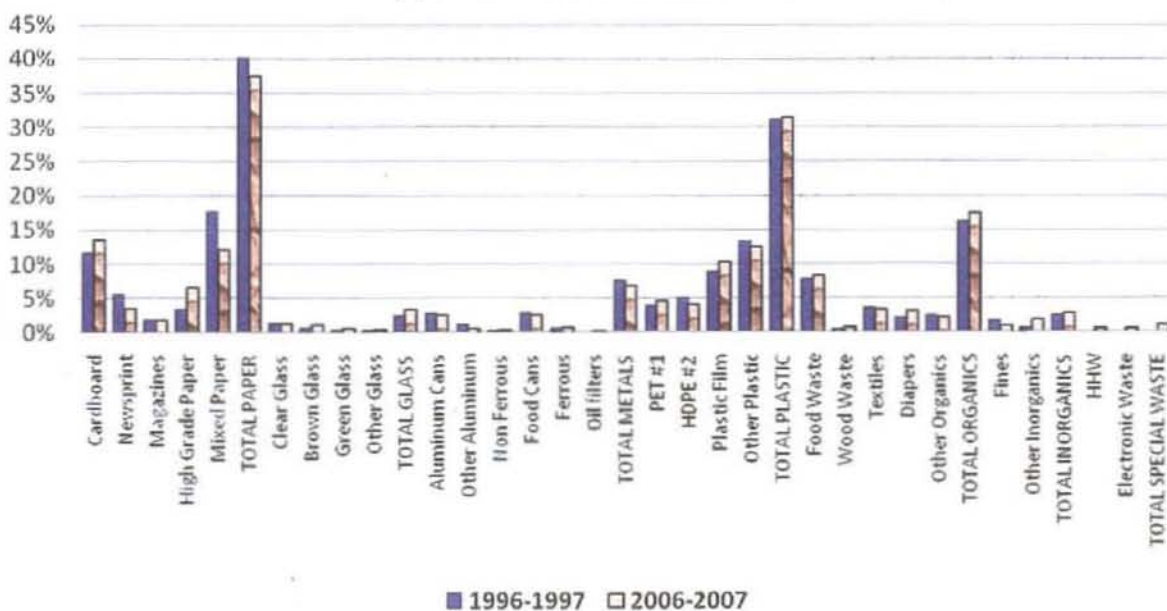


**1996-1997 WCS Comparison** - Summarized 2006-2007 waste sort totals compared to 1996-1997 results are displayed in Table 6 and exhibited in Charts 6 and 7. The categories and subcategories with the most significant changes as a percentage by weight were Newsprint(2.73 less), High Grade Paper(2.8 more), Mixed Paper (5.3 less), Total Paper(3.77 less) and Total Plastic(2.85 more) while the categories and subcategories with greatest variance as a percentage of volume were Cardboard(1.99 more), Newsprint(2.12 less), High Grade Paper(3.21 more), Mixed Paper(5.61 less), and Total Paper(2.65 less).

**Chart 6 - 2006-2007 vs. 1996-1997 By Material as % of Weight**  
(special waste not measured in 1996-1997)



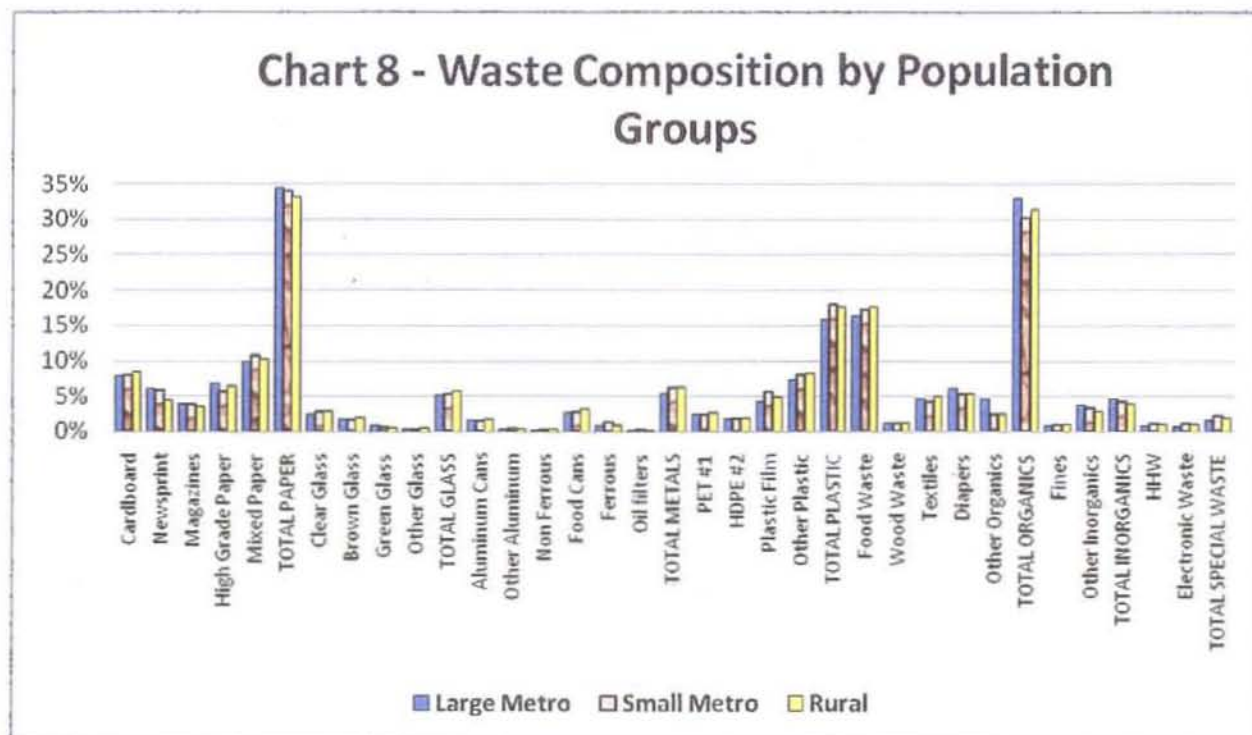
**Chart 7 - 2006-2007 vs. 1996-1997 By Material as % of Volume**  
(special waste not measured in 1996-1997)



**Table 6 - Waste Composition and Comparison 2006-2007 to 1996-1997 Results**

	TOTAL 2006-2007 SORTS				1996-1997 WCS Avg.		Diff. 2006-2007 vs. 1996-1997	
	Wt.(lbs.)	%by Wt.	Vol.(cy)	%by Vol.	% by Wt.	% by Vol.	% by Wt.	% by Vol.
Cardboard	4,884	8.20%	68.778	13.59%	6.70%	11.60%	1.50%	1.99%
Newsprint	3,076	5.17%	17.635	3.48%	7.90%	5.60%	-2.73%	-2.12%
Magazines	2,181	3.66%	9.025	1.78%	3.70%	1.90%	-0.04%	-0.12%
High Grade Paper	3,809	6.40%	32.95	6.51%	3.60%	3.30%	2.80%	3.21%
Mixed Paper	6,075	10.20%	61.225	12.09%	15.50%	17.70%	-5.30%	-5.61%
<b>TOTAL PAPER</b>	<b>20,025</b>	<b>33.63%</b>	<b>189.613</b>	<b>37.45%</b>	<b>37.40%</b>	<b>40.10%</b>	<b>-3.77%</b>	<b>-2.65%</b>
Clear Glass	1,616	2.71%	6.55	1.29%	3.20%	1.30%	-0.49%	-0.01%
Brown Glass	1,054	1.77%	5.585	1.10%	1.50%	0.70%	0.27%	0.40%
Green Glass	374	0.63%	3.075	0.61%	0.40%	0.20%	0.23%	0.41%
Other Glass	193	0.32%	1.685	0.33%	0.60%	0.30%	-0.28%	0.03%
<b>TOTAL GLASS</b>	<b>3,237</b>	<b>5.44%</b>	<b>16.895</b>	<b>3.34%</b>	<b>5.70%</b>	<b>2.50%</b>	<b>-0.26%</b>	<b>0.84%</b>
Aluminum Cans	946	1.59%	13.075	2.58%	1.50%	2.80%	0.09%	-0.22%
Other Aluminum	200	0.34%	2.875	0.57%	0.80%	1.10%	-0.46%	-0.53%
Non Ferrous	137	0.23%	1.425	0.28%	0.20%	0.20%	0.03%	0.08%
Food Cans	1,747	2.93%	12.425	2.45%	3.10%	2.80%	-0.17%	-0.35%
Ferrous	518	0.87%	3.71	0.73%	1.10%	0.70%	-0.23%	0.03%
Oil filters	48	0.08%	0.526	0.10%	0.10%	0.00%	-0.02%	0.10%
<b>TOTAL METALS</b>	<b>3,596</b>	<b>6.04%</b>	<b>34.036</b>	<b>6.72%</b>	<b>6.80%</b>	<b>7.60%</b>	<b>-0.76%</b>	<b>-0.88%</b>
PET #1	1,516	2.55%	23.45	4.63%	1.70%	3.90%	0.85%	0.73%
HDPE #2	1,129	1.90%	20.55	4.06%	2.10%	5.10%	-0.20%	-1.04%
Plastic Film	2,869	4.82%	51.8	10.23%	3.70%	8.80%	1.12%	1.43%
Other Plastic	4,756	7.99%	62.875	12.42%	6.90%	13.30%	1.09%	-0.88%
<b>TOTAL PLASTIC</b>	<b>10,270</b>	<b>17.25%</b>	<b>158.675</b>	<b>31.34%</b>	<b>14.40%</b>	<b>31.10%</b>	<b>2.85%</b>	<b>0.24%</b>
Food Waste	10,254	17.22%	41.825	8.26%	18.70%	7.80%	-1.48%	0.46%
Wood Waste	709	1.19%	3.425	0.68%	0.80%	0.50%	0.39%	0.18%
Textiles	2,817	4.73%	16.6	3.28%	4.00%	3.50%	0.73%	-0.22%
Diapers	3,264	5.48%	15.3	3.02%	4.20%	2.10%	1.28%	0.92%
Other Organics	1,766	2.97%	10.725	2.12%	3.20%	2.40%	-0.23%	-0.28%
<b>TOTAL ORGANICS</b>	<b>18,810</b>	<b>31.59%</b>	<b>87.875</b>	<b>17.36%</b>	<b>30.90%</b>	<b>16.30%</b>	<b>0.69%</b>	<b>1.06%</b>
Fines	554	0.93%	4.45	0.88%	3.30%	1.80%	-2.37%	-0.92%
Other Inorganics	1,912	3.21%	9.125	1.80%	1.50%	0.70%	1.71%	1.10%
<b>TOTAL INORGANICS</b>	<b>2,466</b>	<b>4.14%</b>	<b>13.575</b>	<b>2.68%</b>	<b>4.80%</b>	<b>2.50%</b>	<b>-0.66%</b>	<b>0.18%</b>
HHW	547	0.92%	3.05	0.60%	n/a	n/a	0.92%	0.60%
Electronic Waste	588	0.99%	2.525	0.50%	n/a	n/a	0.99%	0.50%
<b>TOTAL SPECIAL WASTE</b>	<b>1,135</b>	<b>1.91%</b>	<b>5.575</b>	<b>1.10%</b>			<b>1.91%</b>	<b>1.10%</b>
<b>TOTAL COMPOSITION</b>	<b>59,539</b>	<b>100%</b>	<b>506.244</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>0%</b>	<b>0%</b>

*Population Density* - One goal of the waste composition study was to see if population density has an effect on waste composition. Therefore, the results were compared by dividing the sampled facilities into three groups based on the population density of the areas served. Large Metro includes Courtney Ridge, Lee's Summit, O'Fallon, and St. Louis. Small Metro includes Columbia, St. Joseph, and Springfield. Rural includes Macon, Maryville, Osage Beach, Pemiscot Co., Phelps Co., St. Francois Co., and West Plains. The grouped data is displayed in Table 7 and Chart 8.



The Large Metro group had more Organics as a percentage of weight than the other two groups, due to 2.3% more Other Organics than both Small Metro and Rural communities. The primary item placed in this category during the sorts was kitty and dog litter heavy laden with fecal matter. This is a reasonable difference in population densities and the greater likelihood of indoor pets. Further, yard waste was noted in multiple loads by the sorters at the two locations in the Kansas City metro area. This could be occurring due to confusion on behalf of citizens because various haulers service the area, some of which accept yard waste along with the trash and haul it to a Kansas landfill where yard waste is allowed in landfills. Large Metro also had less Total Plastic(15.8) as a percentage of weight than both the Small Metro(17.9) and Rural(17.6) groups, particularly in the Plastic Film and Other Plastic subcategories.



**Table 7 - Waste Composition and Comparison by Population Density**

	Large Metro: Courtney Ridge, Lee's Summit, O'Fallon, St. Louis				Small Metro: Columbia, St. Joseph, Springfield				Rural: Macon, Maryville, Osage Beach, Pemiscot Co., Phelps Co., St. Francois Co., West Plains			
	Wt.(lbs.)	%by Wt.	Vol.(cy)	%by Vol.	Wt.(lbs.)	%by Wt.	Vol.(cy)	%by Vol.	Wt.(lbs.)	%by Wt.	Vol.(cy)	%by Vol.
Cardboard	1,177	7.9%	18.83	13.59%	947	8.0%	14.20	14.16%	2,760	8.4%	37.75	13.38%
Newsprint	897	6.0%	4.90	3.96%	690	5.8%	3.68	3.66%	1,489	4.5%	9.06	3.21%
Magazines	589	4.0%	2.40	1.94%	447	3.8%	1.80	1.80%	1,145	3.5%	4.83	1.71%
High Grade Paper	1,002	6.7%	8.43	6.81%	667	5.7%	5.73	5.71%	2,140	6.5%	18.80	6.66%
Mixed Paper	1,457	9.8%	14.68	11.86%	1,259	10.7%	13.05	13.01%	3,359	10.2%	33.50	11.67%
<b>TOTAL PAPER</b>	<b>5,122</b>	<b>34.4%</b>	<b>47.23</b>	<b>38.15%</b>	<b>4,010</b>	<b>34.0%</b>	<b>38.45</b>	<b>38.34%</b>	<b>10,893</b>	<b>33.2%</b>	<b>103.94</b>	<b>36.84%</b>
Clear Glass	356	2.4%	1.50	1.21%	320	2.7%	1.15	1.15%	940	2.9%	3.90	1.38%
Brown Glass	257	1.7%	1.30	1.05%	196	1.7%	1.08	1.07%	601	1.8%	3.21	1.14%
Green Glass	119	0.8%	0.88	0.71%	75	0.6%	0.65	0.65%	180	0.5%	1.55	0.55%
Other Glass	37	0.2%	0.35	0.28%	29	0.2%	0.23	0.22%	127	0.4%	1.11	0.39%
<b>TOTAL GLASS</b>	<b>769</b>	<b>5.2%</b>	<b>4.03</b>	<b>3.25%</b>	<b>620</b>	<b>5.3%</b>	<b>3.10</b>	<b>3.09%</b>	<b>1,848</b>	<b>5.6%</b>	<b>9.77</b>	<b>3.46%</b>
Aluminum Cans	221	1.5%	3.08	2.48%	182	1.5%	2.38	2.37%	543	1.7%	7.63	2.70%
Other Aluminum	45	0.3%	0.55	0.44%	45	0.4%	0.58	0.57%	110	0.3%	1.75	0.62%
Non Ferrous	17	0.1%	0.18	0.14%	24	0.2%	0.20	0.20%	96	0.3%	1.05	0.37%
Food Cans	399	2.7%	2.73	2.20%	319	2.7%	2.13	2.12%	1,029	3.1%	7.58	2.69%
Ferrous	111	0.7%	0.80	0.65%	143	1.2%	0.83	0.82%	264	0.8%	2.09	0.74%
Oil filters	8	0.1%	0.10	0.08%	24	0.2%	0.20	0.20%	16	0.0%	0.23	0.08%
<b>TOTAL METALS</b>	<b>801</b>	<b>5.4%</b>	<b>7.43</b>	<b>6.00%</b>	<b>737</b>	<b>6.2%</b>	<b>6.30</b>	<b>6.28%</b>	<b>2,058</b>	<b>6.3%</b>	<b>20.31</b>	<b>7.20%</b>
PET #1	365	2.5%	8.05	4.89%	285	2.4%	4.33	4.31%	866	2.6%	13.08	4.63%
HDPE #2	263	1.8%	4.50	3.64%	213	1.8%	3.93	3.91%	653	2.0%	12.13	4.30%
Plastic Film	630	4.2%	12.06	9.76%	666	5.6%	11.53	11.49%	1,573	4.8%	28.20	10.00%
Other Plastic	1,101	7.4%	15.55	12.56%	949	8.0%	12.53	12.49%	2,706	8.2%	34.70	12.30%
<b>TOTAL PLASTIC</b>	<b>2,359</b>	<b>15.8%</b>	<b>38.18</b>	<b>30.84%</b>	<b>2,113</b>	<b>17.9%</b>	<b>32.30</b>	<b>32.21%</b>	<b>5,798</b>	<b>17.6%</b>	<b>88.10</b>	<b>31.23%</b>
Food Waste	2,445	16.4%	9.65	7.80%	2,030	17.2%	8.03	8.00%	5,779	17.6%	24.15	8.56%
Wood Waste	177	1.2%	0.88	0.71%	137	1.2%	0.60	0.60%	395	1.2%	1.95	0.69%
Textiles	692	4.6%	4.25	3.43%	489	4.1%	2.85	2.84%	1,636	5.0%	9.50	3.37%
Diapers	909	6.1%	4.08	3.28%	616	5.2%	2.93	2.92%	1,739	5.3%	8.30	2.94%
Other Organics	702	4.7%	3.73	3.01%	285	2.4%	1.73	1.72%	779	2.4%	5.28	1.87%
<b>TOTAL ORGANICS</b>	<b>4,925</b>	<b>33.1%</b>	<b>22.58</b>	<b>18.24%</b>	<b>3,557</b>	<b>30.2%</b>	<b>16.13</b>	<b>16.08%</b>	<b>10,328</b>	<b>31.4%</b>	<b>49.18</b>	<b>17.43%</b>
Fines	127	0.9%	1.00	0.81%	107	0.9%	0.85	0.85%	320	1.0%	2.60	0.92%
Other Inorganics	563	3.8%	2.25	1.82%	394	3.3%	1.95	1.94%	955	2.9%	4.93	1.75%
<b>TOTAL INORGANICS</b>	<b>690</b>	<b>4.6%</b>	<b>3.25</b>	<b>2.63%</b>	<b>501</b>	<b>4.2%</b>	<b>2.80</b>	<b>2.79%</b>	<b>1,275</b>	<b>3.9%</b>	<b>7.53</b>	<b>2.67%</b>
HHW	114	0.8%	0.63	0.50%	122	1.0%	0.68	0.67%	311	0.9%	1.75	0.62%
Electronic Waste	110	0.7%	0.45	0.36%	136	1.2%	0.53	0.52%	342	1.0%	1.55	0.55%
<b>TOTAL SPECIAL WASTE</b>	<b>224</b>	<b>1.5%</b>	<b>1.08</b>	<b>0.87%</b>	<b>258</b>	<b>2.2%</b>	<b>1.20</b>	<b>1.20%</b>	<b>653</b>	<b>2.0%</b>	<b>3.30</b>	<b>1.17%</b>
<b>TOTAL COMPOSITION</b>	<b>14,890</b>	<b>100%</b>	<b>123.78</b>	<b>100%</b>	<b>11,796</b>	<b>100%</b>	<b>100.28</b>	<b>100%</b>	<b>32,853</b>	<b>100%</b>	<b>282.12</b>	<b>100%</b>

*Special Consideration-* As mentioned earlier, the Special Waste category including Electronics and Household Hazardous Waste subcategories were added for the 2006-2007 waste composition study. Items were recorded by weight, volume, and description at the conclusion of each sort. The itemization for each facility is included in the tables for each chapter. Batteries of all types (alkaline, lithium, ni-cad, etc.) were collected at each sort and accounted for by weight and volume in the HHW subcategory. Further, the batteries were retained after each sort and delivered to the Rechargeable Battery Recycling Corporation (RBRC) for analysis. The weight and count of batteries found is included in the Special Waste chart for each site. Battery totals for all sites combined were as follows:

	Quantity(all types)	Weight
Fall 2006 Sorts	333	29 lbs. 5.8 oz.
Spring 2007 Sorts	353	36 lbs. 2 oz.
TOTAL	686	65 lbs. 7.8 oz.
Avg. per Site	46	4 lbs. 5.9 oz.

Density plays an important role when considering some materials. For instance, while plastics comprise 17.28% by weight of MSW going into Missouri landfills, they comprise 31.34% by volume. Landfills charge by weight, but their space is consumed by volume.

*Individual Facility Results* - Results by waste category and findings at each location are presented in Appendixes 1 through 15 along with a description of services and programs in each sampled facility's service area. Demographic information for each location is from the U.S. Census Bureau 2000 census data. Waste and recycling tonnages are taken from site interviews, solid waste management district personnel, and the Department of Natural Resources Solid Waste Management Program

### **Conclusions**

Changes in the MSW waste stream over the past decade have been less substantial than changes over the previous decade. Much of the difference between 20 years and 10 years ago was attributed to the passage of Senate Bill 530 in 1990 that set state-wide goals for solid waste recovery and reduction, established additional landfill permitting requirements, and banned major appliances, yard waste, waste oil, whole tires, and lead acid batteries from landfills.

Still, the composition of MSW in 2006-2007 reflects several differences in society and the overall waste generation and management in Missouri. Statewide efforts by the Department of Natural Resources Solid Waste Management Program and the solid waste management districts have continued to impact the statewide waste stream. The estimated statewide diversion rate as calculated by the DNR SWMP has continued to rise over the past decade from 30% in 1997 to 44% in 2006.

Three observations are offered regarding societal changes over the past decade that are affecting the Missouri MSW waste stream:



1. Technological advancements and popularity of web-based publications and distributions over the past decade have no doubt heavily influenced the decline in Total Paper (3.77% less than 1996-1997 WCS). This represents a difference of over 101,115 tons annually in Missouri's MSW waste stream. Newsprint alone declined 2.73% by weight which would be the equivalent of 73,221 tons per year. The smaller web width (width of newspaper page before folded in two) has become common in many newspaper markets, as well as using 21% lighter paper weight than was used 10 years ago(Abitibi). Recycling program growth combined with more environmental practices by the newspaper companies and the development of the electronic media market has impacted the paper going into Missouri landfills.

2. Technological advancement and the increasingly shorter turnaround time in computer-related equipment upgrades have also caused electronic waste to become a waste category not as prevalent in 1996-1997 that is of consideration in today's waste recovery and recycling industry. Ten years ago there were only a handful of computer/electronics demanufacturers in the metro areas, whereas today there are 27 such approved businesses throughout the state.

3. Convenience has become an important factor to time-pressed Americans who buy on-the-go food they can quickly consume at their desk, in their cars, or at home as they rush from one daily obligation to the other. There are substantially more PET #1 containers in the generated waste stream than a decade ago. By 2001, the Beverage Marketing Corporation was reporting that bottled water sales had tripled over the past decade and that single serve sales had grown 35% since 1993. By 2005, the carbonated soft drink market share had begun to decline due to the continued growth in bottled water, as well as sports drinks of expanding variety, bottled tea and flavored waters. Even though carbonated soft drinks experienced a declining market share, their sales volumes were 14% higher in 2006(10.6 billion cases) than they were in 1996(9.3 billion cases). The 2006-2007 WCS showed PET #1 plastics only increased .84% by weight and .73% by volume in the MSW waste stream since 1996-1997. This verifies the vast number of PET #1 containers that are being diverted from landfills considering the dynamic increase in the product generated.

General observations about the 2006-2007 waste composition study findings:

1. Recycling Effect on Population Groups - Recycling efforts are making a difference in Missouri. In the Large Metro group, three of the four sites have substantially less paper in their waste streams than ten years ago. Three of the four also had a noticeable increase in Plastics, although considering the plastics in the generated waste stream the numbers are supportive of increased recycling as well.

Similar to the Large Metro group, the three Small Metro communities all show decreased amounts of paper and increased amounts of plastics in their waste. Columbia's results indicated the greatest reduction in paper over the past ten years even though they had the highest percentage by volume for this year's study. The decrease since 1996-1997 coincides with the implementation of their commingled recycling system, convenience store recycling, expansion of their drop-offs to large apartment complexes and startup of a commercial recycling program over the past decade. Columbia also had a 25-year container deposit ordinance repealed in April, 2002, which one would expect to contribute to an increase in PET #1, aluminum, and glass. Columbia experienced less than 1% increases in each of these categories and even had less than average of these materials by weight compared to the overall 2006-2007 average.



In rural settings, the service area for the Pemiscot County Transfer Station has had the most improved recycling services offered in the area over the past decade with drop-offs provided in all surrounding communities whereas only one was in the area ten years ago. The waste composition for Pemiscot County reflected decreases in percentage by weight for paper and glass whereas plastics and organics and inorganics increased as a noticeable percentage of weight.

Alternately, the city of Maryville had a more aggressive recycling program in place ten years ago than they do today. The city discontinued its pay as you throw curbside program in 2001 and there are few recycling opportunities in the service area other than through the local University. This was reflected in the 2006-2007 data when compared to the 1996-1997 results in various categories. However, when compared to the 2006-2007 overall average of all sorts, Maryville was very near average and even had less Total Paper. Paper is targeted by the University for its pelletizing alternative fuel program.

Of the seven Rural population service areas, the Osage Beach site had the least amount of recycling service offered in their service area. This site had the greatest percentage by weight of all sites for aluminum cans, brown and green glass, and electronic waste. The service area for the Osage Beach Transfer Station is the Lake of the Ozarks region, which is known for vacation attractions, weekend homes, and recreational atmosphere which all coincide with the high numbers in the beverage container categories. Likewise, the Reeds Spring Transfer Facility receives waste from the Branson tourist area and they had an equally high percentage by weight of glass. Branson has a recycling program which could have kept the PET #1 and aluminum cans from experiencing the increases that Osage Beach had.

2. Seasonal Effect on Waste Stream – There appears to be no change in Missouri's MSW waste stream between fall and spring, which is a consistent observation from the 1996-1997 study.

3. Value of Recyclables in the MSW Waste Stream - Throughout this report, percentages by weight and volume have been identified from various viewpoints and groupings. A substantial amount of material in the MSW waste stream is valuable. Table 8 quantifies the substantial portions that are reasonably believed to be marketable through recycling facilities or diverted in other methods such as composting. Increased recovery, reuse, and recycling have a significant positive impact on Missouri's solid waste industry.

**Table 8 - Estimated Value of Recyclables in Missouri's 2006 MSW Waste Stream**

	% of MSW by Wt.	Est. Tons/Yr.	Est. Value/Ton*	Est. Marketed Value	Est. Avoided Landfill Fee**	Potential Savings/Year***
Cardboard	8.20%	220,013	\$ 82.00	\$ 18,041,066	\$ 8,917,127	\$ 26,958,192
Newsprint	5.17%	138,567				
Est. 50% Marketable as News#6		69,283	\$ 57.00	\$ 3,949,152	\$ 2,808,055	\$ 6,757,207
Est. 50% Marketable as News#8		69,283	\$ 83.50	\$ 5,785,162	\$ 2,808,055	\$ 8,593,217
Magazines (assume marketable as Mixed)	3.66%	98,249	\$ 58.50	\$ 5,845,818	\$ 3,982,034	\$ 9,827,852
High Grade Paper (assume marketable as SOP)	6.40%	171,587	\$ 137.00	\$ 23,507,379	\$ 6,954,409	\$ 30,461,789
Mixed Paper	10.20%	273,665				
Est. 70% Marketable		191,565	\$ 59.50	\$ 11,398,139	\$ 7,764,144	\$ 19,162,284
Est. 30% Compostable		82,099			\$ 3,327,490	\$ 3,327,490
<b>TOTAL PAPER DIVERTED</b>	<b>33.63%</b>	<b>1,314,312</b>		<b>\$ 68,526,717</b>	<b>\$ 36,561,315</b>	<b>\$ 105,088,032</b>
Clear Glass	2.71%	72,797	\$ 27.50	\$ 2,001,920	\$ 2,950,466	\$ 4,952,386
Brown Glass	1.77%	47,480	\$ 16.00	\$ 759,685	\$ 1,924,376	\$ 2,684,060
Green Glass	0.63%	16,848	\$ 7.50	\$ 126,359	\$ 682,843	\$ 809,202
<b>TOTAL GLASS DIVERTED</b>	<b>5.11%</b>	<b>137,125</b>		<b>\$ 2,887,963</b>	<b>\$ 5,557,685</b>	<b>\$ 8,445,648</b>
Aluminum Cans	1.59%	42,615	\$1,750.00	\$ 74,576,477	\$ 1,727,191	\$ 76,303,668
Food Cans	2.93%	78,698	\$ 194.50	\$ 15,306,828	\$ 3,189,644	\$ 18,496,471
<b>TOTAL METALS DIVERTED</b>	<b>4.52%</b>	<b>121,313</b>		<b>\$ 89,883,305</b>	<b>\$ 4,916,835</b>	<b>\$ 94,800,140</b>
PET #1	2.55%	68,292	\$ 292.00	\$ 19,941,358	\$ 2,767,888	\$ 22,709,246
HDPE #2	1.90%	50,859				
Est. 70% Natural(Milk Jugs)		35,601	\$ 600.00	\$ 21,360,721	\$ 1,442,917	\$ 22,803,638
Est. 30% Color		15,258	\$ 348.00	\$ 5,309,665	\$ 618,393	\$ 5,928,058
Plastic Film	4.82%	129,242				
Est. can use 70% in extrusion market(no mkt \$)	3.37%	90,469			\$ 3,666,721	\$ 3,666,721
Other Plastics	7.99%	214,247				
Est. can use 70% in extrusion market(no mkt \$)	5.59%	149,973			\$ 6,078,398	\$ 6,078,398
<b>TOTAL PLASTIC DIVERTED</b>	<b>13.41%</b>	<b>359,593</b>		<b>\$ 46,611,744</b>	<b>\$ 8,495,918</b>	<b>\$ 55,107,663</b>
Food Waste	17.22%	461,919			\$ 18,721,584	\$ 18,721,584
Other Organics	2.97%	79,554				
Est. 20% compostable(yard waste, plant trimmings)	0.59%	15,911			\$ 644,867	\$ 644,867
<b>TOTAL ORGANICS DIVERTED</b>	<b>17.82%</b>	<b>477,830</b>			<b>\$ 19,366,451</b>	<b>\$ 19,366,451</b>
<b>TOTAL</b>	<b>74.49%</b>	<b>2,410,174</b>		<b>\$ 207,909,729</b>	<b>\$ 74,898,204</b>	<b>\$ 282,807,933</b>

\*Fiber market values are based on Yellow Sheet baled prices for tractor trailer loads in the Midwest/Chicago sector; Container market values are based on Waste News Chicago Market Average Price from Mid-Range. All values are calculated averaged from sort period, September/06 through June/07.

\*\*Average tipping fee from all sampled facilities during the 2006-2007 WCS was \$40.53. This value was applied to the tonnages to determine Avoided Landfill Fee.

\*\*\*Potential Savings are savings that could be used for costs associated with processing the recyclables/compostables.